

"S" BRIDGE

Pennsylvania Historic Bridges Recording Project
Spanning Tulpehocken Creek at State Rt. 3061
Stouchsburg vic.
Berks County
Pennsylvania

HAER No. PA-450

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
1849 C Street, NW
Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD

"S" BRIDGE

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Location: Spanning Tulpehocken Creek at State Rt. 3061, Stouchsburg vicinity, Berks County, Pennsylvania.

USGS Quadrangle: Womelsdorf, Pennsylvania (7.5-minute series, 1969).

UTM Coordinates: 18/396520/4469700

Date of Construction: Probably 1816; significantly altered or reconstructed in 1919.

Designer: Unknown.

Builder: Unknown.

Present Owner: Pennsylvania Department of Transportation.

Present Use: Vehicular bridge.

Significance: This three-span stone arch bridge represents the long tradition of stone arch bridge-building in Pennsylvania. The "S" Bridge was once a crossing on the Berks and Dauphin Turnpike, and it is near the historic location of the Union Canal. The bridge was probably built during construction of the turnpike in 1816 and 1817, and was reconstructed in 1919. Its continued use confirms the importance of the transportation corridor along Tulpehocken Creek. The "S" Bridge was listed in the National Register of Historic Places in 1988.

Historian: Blythe Semmer, August 1997.

Project Description: This bridge was documented by the Historic American Engineering Record (HAER) as part of the Pennsylvania Historic Bridges Recording Project - 1, co-sponsored by the Pennsylvania Department of Transportation (PennDOT) and the Pennsylvania Historical and Museum Commission during the summer of 1997. The project was supervised by Eric DeLony, Chief of HAER.

The "S" Bridge is a three-span stone arch bridge built in the early nineteenth century, in the tradition of early Pennsylvania stone arch bridge-building. It was significantly altered or reconstructed in 1919. The pastoral setting of this bridge recalls the early history of Berks County and the historic significance of the Tulpehocken Creek area. The "S" Bridge spans Tulpehocken Creek in Marion Township, along what was an important regional road linking Berks County with Lebanon and Dauphin counties to the west. The township has only one small village within its boundaries, Stouchsburg. The road was the Berks and Dauphin Turnpike, which connected several early communities, among them Womelsdorf to the east of the "S" Bridge, and Stouchsburg to the west. Modern U.S. Route 422 now runs just to the northeast of the old turnpike and carries traffic between Berks and Lebanon counties. This corridor now has some strip development, but the land to the north and south of the highway remains rolling farmland.

Description

The "S" Bridge is a three-span stone arch bridge over Tulpehocken Creek in Marion Township, Berks County, Pennsylvania. It carries State Route 3061 across the creek, which parallels the historic location of the Union Canal. The three 22'-0" semi-circular arch spans and abutments make up the structure's total length of 78'-0". The bridge's deck width is 25'-10", which includes a 22'-10" roadway and stone parapet walls topped with rough-cut stone. Stone voussoirs line the arch. The arch ring has been covered with either cement or lime mortar. The entire bridge is constructed of rubble masonry, a building material characteristic of stone bridges of the eighteenth and early nineteenth centuries.

The bridge is referred to as the "S" Bridge because the roadway's curving alignment as it crosses Tulpehocken Creek, resembling the letter "S" in plan. From the east, the roadway enters the bridge at an angle to Tulpehocken Creek, but crosses the creek at a ninety-degree angle. As the roadway continues west towards Stouchsburg on the opposite side of the bridge, the downstream wing wall curves north, following the shape of the road that branches off to the north on this side. The upstream wing wall on the west end of the bridge also flares westward, as the approach roadway width is greater than the bridge roadway.

Construction of the "S" Bridge

The "S" Bridge was probably built along with the Berks and Dauphin Turnpike in 1816 and 1817, although its exact construction date is unknown. Undoubtedly a bridge has stood at this crossing since the turnpike was constructed. After many years of use, it may have required repairs such as replacement of parapet walls, which appear to be an early twentieth-century addition. A three-span stone arch bridge labeled "'S' Bridge" is standing in a photograph taken

around 1890.¹ The rough-cut stone that now tops the parapet walls does not appear in the 1890 photograph. At that time the bridge had a smooth parapet wall that rose gently to a peak at mid-span. The rough stone treatment is more characteristic of early twentieth-century efforts to make structures look old than early nineteenth-century construction methods. It is possible that the original bridge was repaired or reconstructed in 1919, and this may account for the 1919 date of erection in the Pennsylvania Department of Transportation's records.² Alterations or reconstruction of the bridge might also account for the description that appeared in a 1923 history of the area of the "new bridge that crosses the Tulpehocken Creek and old canal" at the site of the "S" Bridge.³ No documentation has surfaced to determine whether this meant repairs to the bridge or a reconstruction of the entire structure.

Another bridge over Tulpehocken Creek was built of masonry in the early twentieth century. This other stone arch bridge was immediately above the "S" Bridge on Tulpehocken Creek. This bridge, known as Scharff's Bridge, was originally built in 1832 as a two-span stone arch bridge. However, it was completely destroyed by the flood of 28 February 1902. A new crossing was desperately needed at the site, and petitioners called for the construction of another structure of two segmental arches, each 25'-0" in width. This bridge was to be masonry with taller and wider arches than the old bridge's semi-circular arches, as an illustration in the Berks County *Road Book* shows. Bids received in November 1902 included several by iron and steel bridge companies such as the National Bridge Company, Berlin Bridge Company, and King Bridge Company. Two builders also submitted bids for three types of bridges: steel superstructure, a three-span concrete arch bridge, and a three-span stone arch bridge. The commissioners and court ultimately approved L. N. Focht's \$4230.00 bid for a three-span stone arch bridge, confirming that stone bridges were still being constructed in the county during the twentieth century. The stone bridge was constructed in 1903, but was replaced by a concrete span in the mid-1950s.⁴

¹ The 1890 photograph appears in Earl W. Ibach, *The Hub of the Tulpehocken* (Lebanon, Pa.: Boyer Printing Co., 1975), 340, and Kathy M. Scogna, *History of Marion Township: 150 Years, 1844-1994* (Marion, Pa.: Marion Township Anniversary Committee, 1994), 90. These sources confirm that "S' Bridge" is the local name for this structure.

² See the National Register nomination for "Highway Bridges Owned by the Commonwealth of Pennsylvania Department of Transportation"; *Historic Highway Bridges in Pennsylvania* (Harrisburg: Pennsylvania Department of Transportation, 1986); and "Structure Inventory Record," bridge inspection file, BMS No. 06-3061-0012-0000, PennDOT District 5-0, Allentown, Pa. No plans documenting the bridge's construction survive in PennDOT records.

³ *The Tulpehocken Bi-centennial Commemorated in a Four-day Celebration at Womelsdorff, Pa., June 28th, 29th, 30th, and July 1st, 1923: Being a Series of Historical Sketches Covering Two Hundred Years, 1723-1923* (Womelsdorff, Pa.: Executive Committee, 1923), 108.

⁴ Berks County, Pennsylvania, *Road Book*, vol. 7, 486-93.

The choice of materials for alterations to the "S" Bridge is an acknowledgment of the region's bridge-building history, and resources to build in stone had certainly not been depleted by the twentieth century. Rather, the viewers for Scharff's Bridge reported that "we have made investigations and found that the locality abounded in good limestone for the building wall purposes as well as for raising the road bed and filling approaches easy of access."⁵ As historian Donald C. Jackson has written, "The use of stone for pavement surfaces and for permanent arch bridges constitutes one of the most distinctive features of early turnpike construction in southeastern Pennsylvania."⁶ Stone arch bridges were not engineering marvels most of the time, but they represented a safe and sturdy crossing to the traveler who frequently encountered less than favorable road conditions.⁷

The rough rubble masonry, stone parapet walls, and semi-circular arches of this span are all visual references to the traditional Pennsylvania stone arch bridges that were built in the area beginning in the eighteenth century. The area along Tulpehocken Creek had already seen its era of expansion and prosperity pass with the abandonment of the Union Canal in 1884, and it had subsequently returned to its agrarian roots. This may have been accompanied by nostalgia for the early days of the region's settlement, when waves of German immigrants claimed the rich farmland of western Berks County. A revival of interest in the county's past could have sparked the reconstruction of an early nineteenth-century stone arch bridge in lieu of its replacement with a modern steel or concrete span.

Transportation along the Tulpehocken

The Berks and Dauphin Turnpike Company was incorporated in 1816 and began construction of the road from Reading to Harrisburg the same year. Sections of the road were opened as they were constructed, and the road's entire length was finished by 1823.⁸ Subscriptions were sold to finance the venture. The state bought nearly half of the subscription offering, purchasing \$29,900.00 out of a total of \$63,905.00.⁹ The turnpike was built on part of the remains of the Tulpehocken Path, which was a road to Shamokin, the Iroquois provincial capital at Sunbury. At Womelsdorf, the turnpike departed from the roadbed that lay along the

⁵ Berks County, *Road Book*, 7:486-93.

⁶ Donald C. Jackson, "Roads Most Traveled: Turnpikes in Southeastern Pennsylvania in the Early Republic," in, *Early American Technology: Making and Doing Things from the Colonial Era to 1850*, ed. Judith A. McGaw (Chapel Hill: Univ. of North Carolina Press, 1994), 215.

⁷ Jackson, "Roads Most Traveled," 212.

⁸ Pennsylvania State Department, Bureau of Corporations, Letters Patent Records, vol. J, 254, indicates that the governor approved the erection of toll houses on the last section of the turnpike road on 4 Dec. 1823.

⁹ I. Daniel Rupp, *History of the Counties of Berks and Lebanon* (Lancaster, Pa.: G. Hills, 1844; reprint Spartanburg, S.C.: Reprint Co., 1984), 383 (page citations are to the reprint edition).

old Tulpehocken Path and picked up parts of the Allegheny Path on its way west to Harrisburg, another Native American road that was later used by white settlers.¹⁰ The state granted permission to the president and managers of the Berks and Dauphin Turnpike Road company to erect toll houses on the portion of road that included the site of the "S" Bridge on 17 December 1817. Three sections of road five miles long had just been viewed by the governor's appointees and their manner of construction approved. The section began "near George Lechner's mill at the fifteenth mile stone and extending until the thirtieth mile stone from the River Schuylkill" in Lebanon County.¹¹

The Berks and Dauphin Turnpike road was one of several built during the turnpike era in Pennsylvania, which lasted approximately fifty years, from 1790 to 1830. This was the period during which many local toll roads were constructed by private companies financed by stock offerings. The state sometimes purchased stock as a sort of informal subsidy. By 1832 Pennsylvania had 3,000 miles of turnpikes, but these were divided among 220 local companies rather than unified in a regional or statewide system.¹²

Turnpike companies were frequently the builders of bridges along their roads, although wide river crossings were usually financed by separate bridge companies.¹³ The Berks and Dauphin Turnpike Company would have erected a bridge over Tulpehocken Creek. Given that the construction of the turnpike took place during the second and third decades of the nineteenth century, it is possible that the company would have erected a stone arch bridge over a relatively small crossing. Stone arch bridges were common in Berks County; the oldest surviving bridge in the county, a three-span stone arch bridge, also stands in Marion Township. It was constructed in 1816 on the road to Sunbury over Tulpehocken Creek.¹⁴

The area surrounding Tulpehocken Creek was a water and land transportation route, primarily in the east-west direction. The Union Canal ran near the creek for several miles in western Berks County. It intersected the Berks and Dauphin Turnpike beside the "S" Bridge, near the Lebanon County line. A truss bridge carried the turnpike across the Union Canal, when it was still in operation, on the west side of Tulpehocken Creek. Lock No. 21 of the canal was located here, reportedly a six-foot lift "east of the Turnpike Road."¹⁵ This lock is also referred to as the Lafayette Lock because the Marquis de Lafayette was rumored to have witnessed its

¹⁰ Ibach, *Hub of the Tulpehocken*, 84.

¹¹ Pennsylvania State Department, Bureau of Corporations, Miscellaneous Records, vol. I, 72.

¹² Philip S. Klein and Ari Hoogenboom, *A History of Pennsylvania*, 2nd ed. (University Park: Pennsylvania State Univ. Press, 1980), 202-3.

¹³ Klein and Hoogenboom, *History of Pennsylvania*, 203.

¹⁴ Scogna, *History of Marion Township*, 76.

¹⁵ See Ibach, *Hub of the Tulpehocken*, 340, and Union Canal Company of Pennsylvania Papers, microfilm reel 4186, manuscript group 174, Pennsylvania State Archives, Harrisburg, Pa.

construction, although the account was most likely a local legend.¹⁶ The Union Canal Company was formed on 2 April 1811, when the Pennsylvania General Assembly passed an act incorporating the company from the Schuylkill and Susquehanna Navigation Company, which had been in existence since at least 1791, and the Delaware and Schuylkill Canal Company. The canal was completed in 1827.¹⁷

There was a cluster of buildings where the "S" Bridge carried the turnpike over Tulpehocken Creek. The location of the bridge is just below the junction of Millbach and Tulpehocken Creeks, which was the site of a grist mill owned by the Lechner family. The mill was removed when the Union Canal was built, but the Lechners also owned a carding mill nearby, which belonged to Dr. J. C. Livingood when Morton L. Montgomery wrote a history of Berks County in 1886.¹⁸ The Dr. J. C. Livingood Woolen Factory was located on the south side of Tulpehocken Creek and comprised three buildings. The mill became M. L. Brumbach's Woolen Factory before being removed in 1920.¹⁹

Tolls were collected along the turnpike for approximately ninety years. Gradually parts of the turnpike were converted to free roads. The last section to retain its toll was the section between a point west of Wernersville to the Berks-Lebanon county line.²⁰ This portion of the turnpike included the "S" Bridge crossing of Tulpehocken Creek. The turnpike stimulated the development of a corridor of nineteenth-century linear villages along its route. It became the main street for these communities that benefitted from being along a major commercial route. Stouchsburg is one such village. Its original form is preserved thanks in part to the construction of the U.S. Route 422 bypass to the north.²¹ The impact of the turnpike's location and the choice of crossings that were made during its construction are still visible on the landscape of Berks County.

The Berks and Dauphin Turnpike Road was officially dissolved at the end of January 1918.²² When the new alignment of U.S. Route 422 was completed in 1951, just to the northeast

¹⁶ Scogna, *History of Marion Township*, 90.

¹⁷ *Tulpehocken Bi-centennial*, 47.

¹⁸ Morton L. Montgomery, *History of Berks County, Pennsylvania* (Philadelphia: Evert, Peck, and Richards, 1886), 1099.

¹⁹ Scogna, *History of Marion Township*, 21.

²⁰ Scogna, *History of Marion Township*, 21.

²¹ Phoebe L. Hopkins notes that the nineteenth-century linear village form "exemplifies a predominant development pattern in rural Pennsylvania during the early 1800s — the growth of one-main street towns along major transportation routes." See Phoebe L. Hopkins, "Stouchsburg Historic District," Berks County, Pennsylvania, National Register of Historic Places Registration Form, 1984, U.S. Department of the Interior, National Park Service, Washington, D.C., 4.

²² Pennsylvania State Department, Bureau of Corporations, Miscellaneous Records, vol. 90, 64.

of the Berks and Dauphin Turnpike, it bypassed the towns of Stouchsburg and Womelsdorf as well as the "S" Bridge. The resulting line of U.S. Route 422 has made possible the preservation of this historic bridge, which would be unable to accommodate the traffic that travels the highway today.

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APPENDIX: Suggestions for Future Research

Some questions concerning the "S" Bridge arose during the research and writing of this report which, due to limitations in the scope of the Pennsylvania Historic Bridges Recording Project - I, remain unanswered. Scholars interested in this bridge are encouraged to investigate the following:

1. The dissolution of the Berks and Dauphin Turnpike took place within a year of the 1919 construction date in PennDOT records. The turnpike company records might reveal what structures were standing when the state took over control of the highway. This information might shed light on what changes have been made to this bridge.